

## REMARKS/ARGUMENTS

Claims 1-11, 13-26, 28-38, 40 and 41-50 remain in the application for further prosecution. Claims 12, 27, 39 and 41 have been cancelled. Claim 15 has been amended. Claims 47-50 have been added.

### § 103 Rejections

Independent claims 1 and 28 are directed to a system for determining whether arcing is present in an electrical circuit. Independent claim 16 is directed to a method for determining whether arcing is present in an electrical circuit. All three claims include the limitation that the system is contained on a single application specific integrated circuit chip.

To render the claimed invention obvious, the Examiner "must identify specifically . . . the reasons one of ordinary skill in the art would have been motivated to select the references and combine them." *In re Dembiczak*, 175 F.3d 994, 999, 50 U.S.P.Q.2d 1614, 1617 (Fed. Cir. 1999), *abrogated on other grounds by In re Gartside*, 203 F.3d 1305, 53 U.S.P.Q.2d 1769 (Fed. Cir. 2000) (*quoting In re Rouffet*, 149 F.3d 1350, 1359, 47 U.S.P.Q.2d 1453, 1459 (Fed. Cir. 1998)). Obviousness cannot "be established using hindsight or in view of the teachings or suggestions of the invention." *Ex parte Maguire*, 2002 WL 1801466, \*4 (Bd. Pat. App. & Inter. 2002) (*quoting Para-Ordnance Mfg. Inc. v. SGS Importers Int'l Inc.*, 73 F.3d 1085, 1087, 37 U.S.P.Q.2d 1237, 1239 (Fed. Cir. 1995), *cert. denied*, 519 U.S. 822 (1996)) (Appendix 6). In other words, the knowledge to combine "*can not* come from the applicant's invention itself." *In re Oetiker*, 977 F.2d 1443, 1447, 24 U.S.P.Q.2d 1443, 1446 (Fed. Cir. 1992) (emphasis added).

The Examiner failed to establish why one of ordinary skill in the art would have found it obvious to combine Haun and Dougherty to achieve the claimed invention and, instead, improperly used hindsight and/or knowledge from the Applicants' invention to make the combination. Because no persuasive suggestion to combine the teachings of Haun and Dougherty has been presented by the Examiner, a *prima facie* case of obviousness has not been made.

U.S. Patent No. 6,259,996 to Haun et al. ("Haun") discloses an arc fault detector system. The arc fault detector system includes a microcontroller 40 and an ASIC 30 that includes the fault detection circuitry. As acknowledged by the Examiner, Haun does not disclose combining the microcontroller 40 and the detection circuitry on the ASIC.

U.S. Patent No. 4,589,052 to Dougherty ("Dougherty") does not address the deficiencies of Haun. Dougherty discloses a digital trip unit for static trip circuit breakers implemented within a single integrated circuit chip. Neither Haun nor Dougherty teaches placing a microcontroller and circuit for analyzing a sensor signal to determine the presence of broadband noise on a single application specific integrated circuit chip.

Thus, it would not have been obvious to one skilled in the art to modify the analyzing circuit of Haun with Dougherty to reach the invention as recited in independent claims 1, 16 and 28. Obviousness requires more than such summary conclusions. It is clear that the motivation, teaching, or suggestion to make the proposed combination *must* have been impermissibly derived using hindsight or using the Applicants' own teachings.

Claims 2, 3, 5-7, 10, 11, 17, 18, 20-23, 25, 26, 29, 30, 32-35, 37 and 38 are all dependent on independent claims 1, 16 and 28 and are, therefore, also believed to be allowable.

**Dependent Claims 4, 8, 9, 13, 14, 15 19, 24, 31, 36, 40 and 42-46**

The Office Action applied further references against some of the dependent claims -- U.S. Patent No. 4,792,899 to Miller ("Miller"), U.S. Patent No. 5,774,555 to Lee et al. ("Lee"), U.S. Patent No. 6,054,887 to Horie et al. ("Horie"), U.S. Patent No. 5,784,020 to Inoue ("Inoue"), U.S. Patent No. 5,224,006 to MacKenzie et al. ("MacKenzie"), and U.S. Patent No. 6,185,732 to Mann et al. ("Mann"). None of these references address the deficiencies of Haun, Dougherty, or the combination thereof. Thus, claims 4, 8, 9, 13, 14, 15 19, 24, 31, 36, 40 and 42-46, which depend either directly or indirectly on independent claims 1, 16 or 28, are not obvious over Haun, Dougherty, Miller, Lee, Horie, Inoue, MacKenzie, Mann, or combinations thereof for at least the same reasons and, thus, should be allowable.

**Allowable Subject Matter**

Claims 12, 27, 39 and 41 were objected to as being dependent on a rejected base claim, but would be allowable if rewritten in independent format, including all of the limitations of the base claim and any intervening claims. Claims 12, 27, 39 and 41 have been rewritten in independent form as claims 47-50 and should, therefore, now be in condition for allowance.

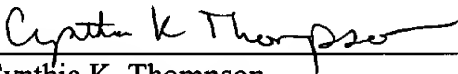
**Conclusion**

It is the Applicants' belief that all of the claims are now in condition for allowance and action towards that effect is respectfully requested.

If there are any matters which may be resolved or clarified through a telephone interview,  
the Examiner is requested to contact the undersigned attorney at the number indicated.

Respectfully submitted,

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